

AMENDMENTS

IN THE CLAIMS:

- 1 1. (Cancelled) An obturator system for filling an endodontically prepared tooth root canal
2 comprising:
3 an elongated heat conductible shaft having proximal and distal end portions;
4 filler material on said shaft distal end portion, said shaft with the filler material
5 thereon being insertable into a tooth root canal; and
6 a heat source associated with and serving to selectably heat said shaft.
- 1 2. (Cancelled) An obturator system according to Claim 22 wherein said heater employs
2 flowing electrical current through a portion of said shaft.
- 1 3. (Cancelled) An obturator system according to Claim 22 wherein said heat source
2 employs electric inductance heating of said shaft.
- 1 4. (Cancelled) An obturator system according to Claim 2 wherein said heat source includes:
2 a first conductor attached at a first location to said shaft;
3 a second conductor attached at a second spaced apart location to said shaft; and
4 circuitry for applying voltage to said first and second conductors.
- 1 5. (Cancelled) An obturator system according to Claim 3 wherein said heat source includes:
2 a coil of wire surrounding a portion of said shaft proximal portion; and
3 circuitry for supplying alternating current to said coil of wire.
- 1 6. (Cancelled) An obturator system according to Claim 22 wherein said heat source
2 includes:
3 a generator impinging electromagnetic wave energy onto said shaft.

- 1 7. (Cancelled) An obturator system according to Claim 22 including:
2 a signal generating temperature sensor affixed to said shaft.
- 1 8. (Cancelled) An obturator system according to Claim 7 including:
2 circuitry attached to said temperature sensor employed to control said heat source.
- 1 9. (Cancelled) An obturator system according to Claim 22 wherein said shaft is of metal.
- 1 10. (Cancelled) An obturator system according to Claim 22 wherein said shaft is of plastic
2 having electrically conductive material admixed therein.
- 1 11. (Cancelled) An obturator system according to Claim 22 wherein said heat source has an
2 inner electrically conductive portion and an outer electrically conductive portion
3 separated for a portion of the shaft length by a layer of insulation said shaft being
4 heatable by flowing current through said inner and outer electrically conductive portions.
- 1 12. (Cancelled) An obturator system according to Claim 22 wherein said heat source
2 employs sonic energy.
- 1 13. (Cancelled) An obturator system according to Claim 22 wherein said heat source
2 employs piezoelectric energy.
- 1 14. (Cancelled) A method of filing an endodontically prepared root canal comprising:
2 applying filler material to a distal portion of an elongated shaft formed of heat
3 conducting material;
4 inserting said proximal portion of said shaft having said filler material thereon
5 into the root canal;
6 heating said shaft to decrease the surface tension of said filler material; and

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removing said shaft leaving said filler material in the root canal.

15. (Cancelled) A method of filling a root canal according to Claim 23 wherein said step of heating said shaft includes heating the shaft with electrical energy.

16. (Cancelled) A method of filling a root canal according to Claim 23 includes applying alternating electrical current to a coil surrounding a portion of said shaft.

17. (Cancelled) A method of filling a root canal according to Claim 23 wherein said step of heating said shaft includes applying electromagnetic energy to said shaft.

18. (Cancelled) A method of filling a root canal according to Claim 23 includes applying an electrical potential to said shaft to cause current to flow through at least a portion of said shaft.

19. (Cancelled) A method of filling an endodontically prepared root canal according to Claim 23 wherein said shaft has an inner electrically conductive portion and an outer electrically conductive portion separated for a portion of the shaft length by a layer of insulation and wherein the step of heating said shaft includes flowing current through said inner and outer conductive portions.

20. (Cancelled) A method of filling an endodontically prepared root canal according to Claim 12 wherein said step of heating said shaft is accomplished by employing sonic energy.

21. (Cancelled) A method of filling an endodontically prepared root canal according to Claim 13 wherein said step of heating said shaft is accomplished by employing piezoelectric energy.

1 22. (Cancelled) An obturator system for filling an endodontically prepared tooth root canal
2 comprising:

3 an elongated heat conductible shaft having a proximal and a smooth distal end
4 portion;

5 filler material applied onto said shaft distal end portion, said shaft having
6 sufficient rigidity to serve as a vehicle for carrying said filler material thereon and
7 compacting the filler material into lowermost portions of a tooth root canal; and

8 a heat source associated with and serving to selectably heat said shaft to reduce
9 surface tension of said filler material permitting said shaft to be removed to leave said
10 filler material compacted in said root canal.

1 23. (Cancelled) A method of filing an endodontically prepared root canal of a tooth
2 comprising:

3 applying filler material to the external surface of a distal portion of an elongated
4 structural shaft formed of heat conducting material, the shaft having sufficient rigidity to
5 serve as a vehicle for carrying and compacting said filler material into lowermost
6 portions of a root canal;

7 inserting said proximal portion of said shaft having said filler material thereon
8 into the root canal;

9 heating said shaft to decrease the surface tension of said filler material; and

10 removing said shaft leaving said filler material in the root canal.

1 24. (Cancelled) An obturator system according to Claim 22 wherein said heat source is a
2 sonic generator that imparts high frequency sound energy to said shaft to raise the
3 temperature of said shaft.

1 25. (Cancelled) An obturator system according to Claim 22 wherein said heat source is a
2 piezoelectric ultrasonic generator that physically vibrates said shaft to raise the
3 temperature of said shaft.

1 26. (New) A method of filling an endodontically prepared root canal of a tooth comprising:
2 applying filler material to the external surface of a distal portion of an elongated
3 structural shaft, the shaft having sufficient rigidity to serve as a vehicle for carrying said
4 filler material into lowermost portions of a root canal;

5 inserting said proximal portion of said shaft having said filler material thereon
6 into the root canal; and

7 applying sound energy to said shaft at a frequency sufficiently high to cause said
8 shaft to vibrate at a rate that thereby the surface tension of said filler material is
9 substantially decreased allowing said shaft to be removed leaving said filler material in
10 the root canal.

1 27. (New) A method according to Claim 26 including:

2 affixing a signal generating temperature sensor to said shaft and using a signal
3 generated by said temperature sensor to control said application of sound energy to said
4 shaft.

1 28. (New) A method according to Claim 26 wherein said shaft is of metal.

1 29. (New) A method according to Claim 26 wherein said shaft is of plastic or fiberglass.

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1 30. (New) A method according to Claim 26 wherein said step of applying sound energy to
2 said shaft is accomplished by employing sonic energy.

1 31. (New) A method according to Claim 26 wherein said step of applying sound energy to
2 said shaft is accomplished by employing piezoelectric energy.

1 32. (New) An obturator system for filling an endodontically prepared tooth root canal
2 comprising:

3 an elongated shaft having a proximal portion and a smooth distal portion;

4 filler material applied onto said shaft distal portion, said shaft having sufficient
5 rigidity to serve as a vehicle for carrying said filler material thereon into the lowermost
6 portions of a tooth root canal; and

7 a source of sound energy that is applied to said shaft at a frequency sufficiently
8 high to cause said shaft to vibrate at a rate that thereby the surface tension of said filler
9 material is substantially decreased allowing said shaft to be removed leaving said filler
10 material in the root canal.

1 33. (New) An obturator system according to Claim 32 wherein said source of sound energy
2 is a source of sonic energy.

1 34. (New) An obturator system according to Claim 32 wherein said source of sound energy
2 employs piezoelectric energy.

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1 35. (New) An obturator system according to Claim 32 wherein said source of sound energy
2 is a laser.

1 36. (New) An obturator system according to Claim 32 wherein said coil is telescopically
2 removable from said shaft.

1 37. (New) An obturator system according to Claim 32 including a signal generating
2 temperature sensor affixed to said shaft.

1 38. (New) An obturator system according to Claim 37 including:
2 circuitry including said temperature sensor by which said source of sound energy
3 is controlled in response to the temperature of said shaft.

1 39. (New) A method of filling an endodontically prepared root canal of a tooth comprising:
2 applying filler material to the external surface of a distal portion of an elongated
3 structural shaft having sufficient rigidity to serve as a vehicle for carrying said filler
4 material into lowermost portions of a root canal;
5 inserting said proximal portion of said shaft having said filler material thereon
6 into the root canal;
7 applying energy to shaft of sufficient intensity to decrease the surface tension of
8 said filler material; and
9 removing said shaft leaving said filler material in the root canal.

1 40. (New) The method of filling an endodontically prepared root canal according to Claim
2 39 wherein the step of applying energy to said shaft is accomplished by the application of
3 sonic energy.

1 41. (New) The method of filling an endodontically prepared root canal according to Claim
2 39 wherein the step of applying energy to said shaft is accomplished by the application of
3 piezoelectric energy.